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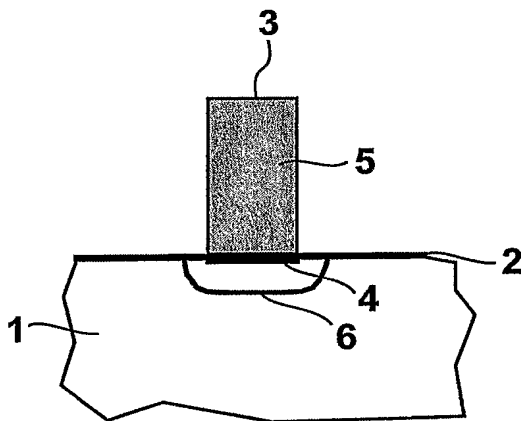
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[Continued on next page]

(54) Title: SEMICONDUCTOR DEVICE COMPRISING A PN-HETEROJUNCTION



(57) Abstract: An electric device is disclosed comprising
a pn-heterojunction (4) formed by a nanowire (3) of
III-V semiconductor material and a semiconductor
body (1) comprising a group IV semiconductor material.
The nanowire (3) is positioned in direct contact with
the surface (2) of the semiconductor body (1) and has a
first conductivity type, the semiconductor body (1) has a
second conductivity type opposite to the first conductivity
type, the nanowire (3) forming with the semiconductor
body (1) a pn-heterojunction (4). The nanowire of III-V
semiconductor material can be used as a diffusion source
(5) of dopant atoms into the semiconductor body. The
diffused group III atoms and/or the group V atoms from
the III-V material are the dopant atoms forming a region
(6) in the semiconductor body in direct contact with the
nanowire (3).

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